

YANNAN (LILY) SHEN

EDUCATION

University Park, PA	The Pennsylvania State University	Aug. 2011 – May 2016
• Ph.D. candidate in Risk Management (GPA: 3.9/4.0)		(Estimated)
Supporting Field: Finance, Statistics		
Dissertation: "The role of Information in the Real Estate Market: The Case of the Fracking Boom"		
Advisor: Dr. Brent Ambrose		
Berkeley, CA	University of California, Berkeley	Jun. 2007 – May 2010
• B.A. in Financial Mathematics (GPA: 3.8/4.0)		
Minor in Financial Engineering		

RESEARCH INTERESTS

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- Asset Pricing
 - Mortgage Markets
 - Real Estate Options
 - Behavioral Economics

WORKING PAPERS

"Mortgage Performance, Gas Exploration, and the Cost of Outdated Information" (Job Market Paper)

with Kris Gerardi and Chris Cunningham

This study examines whether extracting shale gas changed default probabilities of residential mortgages in the gas shale region. The results indicate that fracking activities significantly enhanced mortgage performance, which is contrary to the widely held belief that fracking has devastating impacts on the mortgage market. Currently, the GSEs forbid gas extraction on collateralized mortgage properties. However, this rule predates the fracking boom, and therefore may not be effective in guiding mortgage originations in the shale gas region. The findings indicate that mortgages with terms that forbid drilling on the collateralized properties are more likely to default after the fracking boom. This study is the first to differentiate the marginal impact of conventional drilling and fracking on mortgage default. In addition, analysis of the GSE anti-drilling rule shows that outdated information is harmful in a rapidly changing investment environment.

"Location Proximity and Soft Information in Residential Mortgage Lending: Evidence from Shale Gas Regions"

with Brent Ambrose

This paper examines whether bank-borrower proximity can overcome asymmetric information problems during the mortgage origination process. When fracking wells are drilled in a residential neighborhood, non-local banks might be reluctant to finance properties near fracking sites due to their perception of potential environmental contamination; local banks may have an advantage acquiring information about the site-specific fracking risk. The results show that non-local lenders withdraw lending activities in the face of new drilling while local banks continue to originate mortgages near fracking wells, indicating that bank-borrower distance is still very important for originators to fully understand the potential risk of a mortgage.

"Do Past Experiences Affect Current Decisions: Evidence from the Real Estate Market"

This paper exams whether home buyers' past experiences with conventional gas explorations affect their pricing of properties near emerging fracking sites. Employing zip code level House Price Index (HPI) provided by Corelogic, the results show that: (1) neighborhoods with previous exposure to conventional drillings are less affected by fracking; and (2) environmental contamination caused by drilling accidents only has a temporary impact on property prices. These findings indicate that individuals discount past experience and mainly reply on current information to access the potential risk of fracking.

"Optimal Investment Timing under Inconsistent Preferences"

The majority of the shale gas drilling rights belong to individual landowners who are more likely to sign gas leases despite the potential severe environmental consequences in a long run. This paper implements an option pricing framework to shed light on the optimal taxation policy for regulating a market with many

